

Name \_\_\_\_\_

## Simulating the Motion of Earthquake Waves

1. Label each wave in the pictures below as a “P-wave” or “S-wave.”

A. \_\_\_\_\_



B. \_\_\_\_\_



2. The tape on the end of each spring represents a house. Observe the movements of the tape (or “house”) on the end of the spring as the 2 different types of *body waves* are created. Draw an arrow in the blank above each house to show the direction in which the house moves.

A. \_\_\_\_\_



B. \_\_\_\_\_



3. With which wave did you notice the most drastic movement of the tape? \_\_\_\_\_

4. Record the time it takes for the two different types of *body waves* to travel down the spring. Once you have conducted 3 trials, calculate your average time for each wave.

Type of Earthquake Body Wave	Trial 1 Time (seconds)	Trial 2 Time (seconds)	Trial 3 Time (seconds)	Average Time (seconds)
P-wave (Push and Pull)				
S-wave (Side to Side)				

5. According to your average times, which type of wave was faster? \_\_\_\_\_

6. Answer the following questions using an **evidence based explanation**:

- A. Which wave would reach the house first?
- B. Which wave would cause more damage to the house?

CLAIM: Use complete sentences to answer questions A AND B.

EVIDENCE: Use evidence from the observations you collected in this lab to support your claim. Include specific numbers and descriptions.

REASONING: Explain how your evidence supports your claim. Discuss both speed and direction of the wave movement. Relate this to movement of the ground as well.